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state assets in decline

A report on deferred maintenance

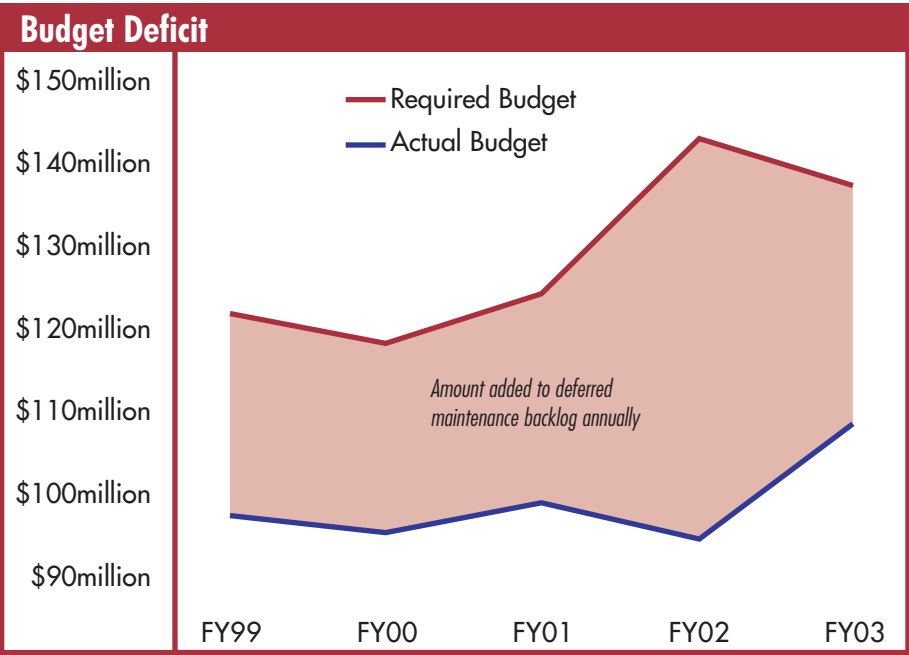


Alaska Department
of Transportation &
Public Facilities



Overview

For many years now, the Alaska Department of Transportation and Public Facilities (DOT&PF) received approximately \$98 million a year to maintain all of the state-owned highways, airports, harbors and buildings under its control. The true cost of maintaining all of those assets to keep their condition at current levels is about \$127 million per year. This short funding of maintenance requires the department to defer much needed maintenance until the next year. Over time, this backlog has grown to the point that some of these assets are deteriorating beyond economical repair.



The result of deferring maintenance is, in the worst case, the closing of four maintenance stations due to structural integrity and foundation failure, and in the best case, inconvenience to the traveling public.

The statewide deferred maintenance needs for highways, airports, harbors and buildings totals \$375,431,200. Since the department's

Harbors with funding in proposed Harbor Deferred Maintenance Bill		(HB146, SB111)
Location	Cost	
Whittier (1 harbor)	\$	2,449.0
Valdez (1 harbor)	\$	3,212.0
Seldovia (1 harbor)	\$	2,628.0
Petersburg (3 harbors)	\$	3,729.0
Ketchikan (5 harbors)	\$	3,938.0
Sitka (3 harbors)	\$	2,234.5
Cordova (1 harbor)	\$	4,876.0
Klawock (1 harbor)	\$	896.0
Juneau (7 harbors)	\$	7,119.0
Wrangell (5 harbors)	\$	3,492.0
Yakutat (1 harbor)	\$	526.0
Hoonah (2 harbors)	\$	2,854.0
TOTAL	\$	37,953.5
		Thousands of Dollars
This proposal, if approved, will complete the transfer of 31 of Alaska's public harbor assets from state to local government and make the facilities safe and functional for many years to come.		

harbors

Alaska's harbors constructed in the '60's and '70's, and '80's are in need of replacement or major renovations. The \$48 million backlog of deferred maintenance grows by about \$3.2 million each year.

Alaska's harbor users pay \$6 million per year to the State through the marine fuel tax. The marine fuel tax is an appropriate source of funding for harbor deferred maintenance.

DOT&PF supports the preservation of existing facilities through the transfer of state facilities to local ownership. If a local community is willing to accept ownership, DOT&PF will evaluate the condition of the facility, prepare an estimate, and support an appropriation for sufficient funds for the community to make the needed repairs and renovations.

The DOT&PF also receives a small appropriation for deferred maintenance statewide to preserve and maintain remote and functionally deficient facilities.

Together this focus has made significant improvements to the overall condition of the public's harbors and has transferred 21 facilities to local control.



Above: Concrete damage at Valdez Harbor
Left: Damaged Harbor Piling

operating budget is insufficient to cover the annual need, nothing can be committed toward the deferred maintenance, and the list grows bigger each year. To provide an acceptable level of safety and service on the National and State transportation system the department needs more funds to address the infrastructure and facility needs.

Alaska has a wide range of climates from rain forest in the Southeast to arctic desert north of the Brooks Range. Weather is a major factor in deterioration and destruction of the infrastructure and facilities. Icy conditions, heavy snowfall, the use of traction devices like tire chains and studs coupled with movement of the subsurface due to frost heaving accelerates the destruction of our infrastructure. Continuing to defer maintenance will result in a significantly reduced level of service to the traveling public, noncompliance with safety standards and ultimately more infrastructure failure.

Routine preventative maintenance has proven to reduce operating cost and extend the lifecycle of infrastructure and facilities. Routine preventative maintenance benefits to the public can be measured by improvements in quality of life, safety and the inter mobility of the transportation system.

The following pages depict statewide, regional and specific deferred maintenance needs.

Total Deferred Maintenance

Highways	\$ 218,784.8
Aviation	\$ 39,722.3
Public Facilities	\$ 69,186.6
Harbors	\$ 37,953.5

Total \$ 365,647.2
Thousands of Dollars

Joseph L. Perkins, P.E.
Commissioner, Alaska DOT&PF

highways

Highways deferred maintenance is something that most people get to experience first-hand everyday. From major rutting and potholes to bare gravel roads and damaged guardrail, the signs of deferred maintenance are all along Alaska's roads.

This deferred maintenance has direct costs to the public – reduced safety, increased travel times, and increased need for automobile repairs. These factors also affect the cost of goods. It costs more for commercial trucks that transport goods to drive poorly maintained roads. That means that you pay more for everything from groceries to gasoline.



Above: Typical sign damage along an Alaska highway

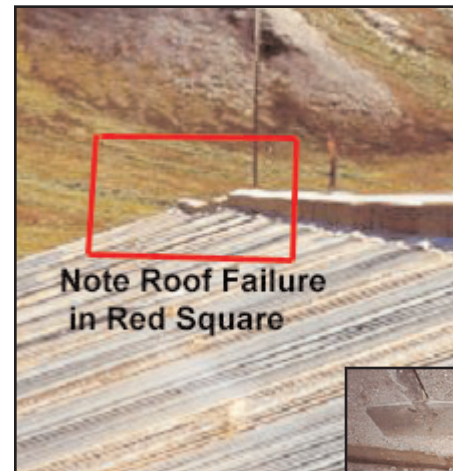
Right: Frost heave damage on Richardson Highway



Facilities Closed Due To Safety

Station Name	Date Vacated	Reason Vacated	Replacement Cost
Chandalar	Aug-01	Foundation Failure	\$ 5,598.4
East Fork	Aug-01	Structural Integrity	\$ 6,187.9
Nome	Spring-02	Structural Integrity	\$ 5,150.0
Willow	Aug-01	Structural Integrity	\$ 4,386.9

Thousands of Dollars



Above: Major roof damage at East Fork Maintenance Facility

Right: Foundation failure at Willow Maintenance Facility



public facilities

In addition to roads, airports and harbors, the department is responsible for maintaining 603 facilities ranging from sand storage sheds to ferry terminals. The bulk of these buildings are airport and highway maintenance facilities. These facilities are critical to the department's mission to provide safe, efficient transportation systems.

A prime example of the effect of deferred maintenance of facilities is the unsafe conditions at four maintenance stations: Chandalar, East Fork, Willow and Nome. A recent structural evaluation of all four buildings determined they are unsafe to occupy due to structural integrity and foundation failure. As a result, the department has moved operations to temporary structures at or near those sites.

Deferred Maintenance By Region

Northern	\$ 37,460.4
Central	\$ 21,685.0
Southeast	\$ 10,041.2

Thousands of Dollars

Right: Foundation and floor settlement at Chandalar Maintenance Facility



Deferred maintenance along Alaska's highways includes all of the following restoration and preservation efforts:

- pavements repairs
- bridge repairs
- gravel surfaces
- guardrails/fences/barriers
- shoulders/slopes/ditches
- drainage
- signs
- paint striping
- lighting
- vegetation management (brush clearing)
- facilities
- environmental management

In the past few years, the federal government has increased the amount of money available to the department to spend on preventive maintenance activities like bridge repair and pavement rehabilitation. These activities have allowed the department to repair some of the worst deferred maintenance.

However, these funds fall short of the amount needed to keep Alaska's highways from deteriorating beyond current levels.

Top Three Most Expensive Highway Deferred Maintenance Activities

Northern

Bridges Repairs	\$ 52,557.9
Pavement Repairs	\$ 28,791.5
Environmental Management	\$ 18,517.6

Central

Pavement Repairs	\$ 57,594.9
Bridges Repairs	\$ 14,553.8
Environmental Management	\$ 8,459.6

Southeast

Pavement Repairs	\$ 6,265.9
Shoulders/Slopes/Ditches	\$ 2,434.0
Gravel Surfacing	\$ 2,423.1

Thousands of Dollars

aviation

Another component of Alaska's transportation system that has suffered from a lack of maintenance is Alaska's airports. Many Alaskans don't routinely notice this. However, for those who live in rural Alaska and rely on Alaska's aviation system for basic services, maintenance is critical to their health and that of their communities.

Poor maintenance also affects the safety and security of Alaska's airports. Runways with drainage problems, potholes, and poorly maintained runway lighting directly affect the safety of pilots and passengers. Damaged security fencing allows humans and animals, such as moose, to inadvertently wander onto runways. Improper vegetation management affects the usefulness of the full length of the runway.



Runway drainage damage
at Haines Airport

Maintaining airports, particularly runways, is similar to maintaining highways. It is critical that surfaces be kept drained and dry, that potholes are properly patched, and that brush is cleared on a routine basis.

Top Three Most Expensive Airport Deferred Maintenance Activities

Northern

Pavement Repairs	\$	6,646.4
Environmental Management	\$	4,274.7
Drainage	\$	2,475.3

Central

Pavement Repairs	\$	13,509.9
Fencing	\$	3,997.3
Environmental Management	\$	1,984.4

Southeast

Pavement Repairs	\$	740.5
Shoulders/Slopes/Ditches	\$	287.6
Gravel Surfacing	\$	286.4

Thousands of Dollars



Above: Damaged airport security fencing



Left: Runway crack at Yakutat Airport